

Claims

1. A modified therapeutic agent, said modified agent comprising three or more membrane binding elements with low membrane affinity covalently associated with the agent which elements are capable of interacting independently and with thermodynamic additivity, with components of cellular or artificial membranes exposed to extracellular fluids wherein at least two membrane binding elements are lipophilic elements.
2. An agent according to claim 1 wherein the lipophilic elements are aliphatic acyl groups.
3. An agent according to any of claim 1 - 2, wherein the aliphatic acyl group is selected from the list consisting of Myristoyl, Decanoyl or Hexanoyl.
4. An agent according to any of claim 1 - 3 wherein the two lipophilic elements are identical.
5. An agent according to any of claims 1 - 4 wherein the lipophilic elements are Myristoyl.
6. An agent according to any of claims 1 - 5 wherein the agent is a soluble protein.
7. An agent according to claim 6 wherein the soluble protein is a complement inhibitor.
8. An agent according to any of claims 1 - 5 wherein the agent is an anticancer agent.
9. An agent according to any of claims 1 - 5 wherein the agent is an antibacterial agent.

-30-

10. An agent according to claim 9 wherein the agent is Vancomycin.
11. An agent according to any of claim 1 - 10 wherein the agent contains two myristoyl groups and a basic amino acid sequence selected from the group consisting of:
 - GSSKSPSKKKKKKPGDC [SEQ ID NO: 2];
 - GSSKSPSKKDDKKGDC [SEQ ID NO: 6];
 - GSSKSPSKDKDKDGDC [SEQ ID NO: 7];
 - KSSKSPSKKDDKKPGDC [SEQ ID NO: 8];
 - KSSKSPSKDKDKDPGDC [SEQ ID NO: 9]; or
 - KSKKKC [SEQ ID NO: 10]
12. A pharmaceutical composition comprising an agent according to any of claims 1 - 11 and a pharmaceutically acceptable excipient.
13. An agent according to any of claim 1 - 12 wherein the agent is for use as a medicament.
14. An isolated intermediate for the preparation of a modified therapeutic agent comprising a conjugate consisting of two lipophilic membrane binding elements and a basic amino acid sequence.
15. An isolated intermediate according to claim 14 wherein the lipophilic elements are Myristoyl.
16. An isolated intermediate according to claim 14 - 15 wherein the basic amino acid sequence is selected from KSSKSPSKKDDKKPGDC [SEQ ID NO: 8] or KSSKSPSKDKDKDPGDC [SEQ ID NO: 9].
17. A method of treatment of a disease or disorder amenable to treatment by a soluble therapeutic agent

-31-

which comprises administering a modified therapeutic agent according to any of claim 1 - 11.

18. The use of an agent according to any of claim 1 - 11 for the preparation of a medicament for treatment of a disease or disorder.
19. A method for preparation of an agent according to any of claims 1 to 11 whereby the membrane binding elements are added sequentially, with the first conjugated to the therapeutic agent, then subsequent elements are conjugated to each other.
20. A method for preparation of an agent according to any of claims 1 to 11 whereby the membrane binding elements are prepared separately, the elements are conjugated to each other first, isolated, and then conjugated to the therapeutic agent.